



# UNITED STATES PATENT AND TRADEMARK OFFICE

AF 266  
JW

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,252	05/29/2001	Tomasz J. Goldman	08204/8201348-000	8834
38878	7590	07/07/2006	EXAMINER SAM, PHIRIN	
DARBY & DARBY P.C. P.O. BOX 5257 NEW YORK, NY 10150-5257			ART UNIT 2616	PAPER NUMBER

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/870,252	GOLDMAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Phirin Sam	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,9,13-18,20,21 and 25-29 is/are rejected.
- 7) ☒ Claim(s) 7,10-12,19 and 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

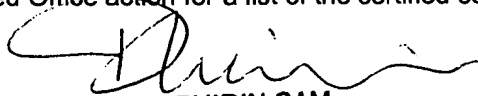
#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**PHIRIN SAM**  
**PRIMARY EXAMINER**

#### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-6, 8, 9, 13-18, 20, 21, and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,260,072 (hereinafter referred as "Rodriguez-Moral") in view US Patent 7,027,393 (hereinafter referred as "Cheriton").

Rodriguez-Moral discloses the invention (**amended claim 1**) as claimed including a method comprising:

- (a) classifying an incoming packet into one of a plurality of flows (see Fig. 2, col. 4, lines 26-41);
- (b) determining an estimate of a load of the plurality of flows on a scarce resource, wherein determining comprises aggregating a plurality of normalized flow load estimates for each of the

Art Unit: 2616

plurality of flows based on at least one of a plurality of cost scaling factors (see Fig. 4, col. 4, lines 46-67, and col. 5, lines 1-22);

Rodriguez-Moral does not disclose implementing a drop policy for at least one flow when the estimate exceeds a predicted threshold. However, Cheriton discloses implementing a drop policy for at least one flow when the estimate exceeds a predicted threshold (see Figs. 1b and 2, col. 6, lines 1-13, 58-67, col. 8, lines 36-67, and col. 9, lines 1-37). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine xxx teaching by Cheriton with Rodriguez-Moral. The motivation for doing so would have been to provide fine-grained policing on a per-flow basis and is relatively immune to retransmission timeout and concomitant loss transmission efficiency read on column 3, lines 57-60. Therefore, it would have been obvious to combine Cheriton and Rodriguez-Moral to obtain the invention as specified in the claim 1.

**Regarding claims 3 and 15,** Rodriguez-Moral discloses allocating a portion of the scarce resource to each flow of an expected plurality of flows (see Fig. 5, col. 9, lines 12-27).

**Regarding amended claims 4 and 16,** Rodriguez-Moral discloses identifying which flows of the plurality of flows exceed their allocation (see Fig. 4, col. 8, lines 11-30).

**Regarding claims 5 and 17,** Rodriguez-Moral discloses distributing excess capacity from flows that do not exceed their allocation to those flows that exceed their allocation (see Fig. 4, col. 8, lines 11-30).

**Regarding amended claims 9 and 21,** Rodriguez-Moral discloses generating for an incoming packet at least one of the plurality of cost scaling factors based on at least one of

Art Unit: 2616

packet type and packet length (see Figs. 3 and 4, col. 5, lines 46-67, col. 6, lines 67, and col. 7, lines 1-14).

**Regarding amended claims 13, 25, and 28**, Rodriguez-Moral discloses a computer readable storage media containing executable computer program instructions which when executed cause a digital processing system to perform a method comprising:

- (a) classifying an incoming packet into one of a plurality of flows (see Fig. 5, col. 4, lines 26-41);
- (b) determining an estimate of a load of the plurality of flows on a scarce resource, wherein determining comprises aggregating a plurality of normalized flow load estimates for each of the plurality of flows based on at least one of a plurality of cost scaling factors (see Fig. 4, col. 4, lines 46-67, and col. 5, lines 1-22);

Rodriguez-Moral does not disclose implementing a drop policy for at least one flow when the estimate exceeds a predicted threshold. However, Cheriton discloses implementing a drop policy for at least one flow when the estimate exceeds a predicted threshold (see Fig. 1b and 2, col. 6, lines 1-13, 58-67, col. 8, lines 36-67, and col. 9, lines 1-37). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine implementing a drop policy for at least one flow when the estimate exceeds a predicted threshold teaching by Cheriton with Rodriguez-Moral. The motivation for doing so would have been to provide fine-grained policing on a per-flow basis and is relatively immune to retransmission timeout and concomitant loss transmission efficiency read on column 3, lines 57-60. Therefore, it would have been obvious to combine Cheriton and Rodriguez-Moral to obtain the invention as specified in the claims 13, 25, and 28.

Art Unit: 2616

**Regarding claims 2, 8, 14, and 20**, Rodriguez-Moral discloses wherein determining further comprises:

(a) aggregating a cost estimate of all packets within a flow to generate a flow load estimated for each flow (see Figs. 2b, 4, and 7, col. 4, lines 57-67, col. 5, lines 67, and col. 6, lines 1-23);

Rodriguez-Moral does not disclose summing the normalized flow load estimates to yield the total load estimate. However, Cheriton discloses summing the normalized flow load estimates to yield the total load estimate (see Fig. 2, col. 5, lines 2-7). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine summing the normalized flow load estimates to yield the total load estimate teaching by Cheriton with Rodriguez-Moral. The motivation for doing so would have been to provide fine-grained policing on a per-flow basis and is relatively immune to retransmission timeout and concomitant loss transmission efficiency read on column 3, lines 57-60. Therefore, it would have been obvious to combine Cheriton and Rodriguez-Moral to obtain the invention as specified in the claims 2, 8, 14, and 20.

**Regarding amended claims 6 and 18**, Rodriguez-Moral does not disclose computing a drop factor based on aggregate over utilization of a scarce resource and enabling the dropping of a packet based on the drop factor. However, Cheriton discloses computing a drop factor based on aggregate over utilization of a scarce resource and enabling the dropping of a packet based on the drop factor (see Figs. 2 and 3, abstract, col. 6, lines 58-65, col. 8, lines 11-35, and col. 10, lines 12-26). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine computing a drop factor based on aggregate over utilization of a scarce resource and enabling the dropping of a packet based on the drop factor teaching by Cheriton

Art Unit: 2616

with Rodriguez-Moral. The motivation for doing so would have been to provide fine-grained policing on a per-flow basis and is relatively immune to retransmission timeout and concomitant loss transmission efficiency read on column 3, lines 57-60. Therefore, it would have been obvious to combine Cheriton and Rodriguez-Moral to obtain the invention as specified in the claims 6 and 18.

**Regarding claims 26, 27, and 29,** Rodriguez-Moral does not disclose a memory coupled to the processor to store a drop buffer, the drop buffer populated to simulate randomization of drop events based on a drop factor. However, Cheriton discloses the memory coupled to the processor to store the drop buffer, the drop buffer populated to simulate randomization of drop events based on the drop factor (see Figs. 2 and 3, col. 8, lines 50-67, and col. 9, lines 1-67). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the memory coupled to the processor to store the drop buffer, the drop buffer populated to simulate randomization of drop events based on the drop factor teaching by Cheriton with Rodriguez-Moral. The motivation for doing so would have been to provide fine-grained policing on a per-flow basis and is relatively immune to retransmission timeout and concomitant loss transmission efficiency read on column 3, lines 57-60. Therefore, it would have been obvious to combine Cheriton and Rodriguez-Moral to obtain the invention as specified in the claims 26, 27, and 29.

***Allowable Subject Matter***

4. Claims 7, 10-12, 19, and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

In order to response properly to the amended claims, the examiner decides to drop the reference(s), US Patent 6,570,876 (Aimoto) and US Patent 6,614,790 (Veres et al), substituting with US Patent 6,260,072 (Rodriguez-Moral) and US Patent 7,027,393 (Cheriton) which are new discovered references. Therefore, new ground of rejections is applied as set forth in the Office Action.

Regarding amended claims 1, 13, and 25, applicants argue that Aimoto does not disclose aggregating a plurality of normalized flow load estimates for at least one of the plurality of flows based on a plurality of cost scaling factors. The examiner agrees with this argument. However, Rodriguez-Moral discloses aggregating a plurality of normalized flow load estimates for at least one of the plurality of flows based on a plurality of cost scaling factors read on column 5, lines 1-48, column 6, lines 3-41, column 7, lines 8-44, and figures 2b, 4, 5, and 7.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period



Art Unit: 2616

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on a compress schedule, from 8:00-5:30, first Wed off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272 - 3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Respectfully submitted,

Date: July 3, 2006



**PHIRIN SAM  
PRIMARY EXAMINER**

<b>Notice of References Cited</b>	Application/Control No. 09/870,252	Applicant(s)/Patent Under Reexamination GOLDMAN ET AL.	
	Examiner Phirin Sam	Art Unit 2616	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,027,393	04-2006	Cheriton, David R.	370/230.1
*	B	US-6,260,072	07-2001	Rodriguez-Moral, Antonio	709/241
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

TR 9600

1aff

Organiz

U. S. D.

COMMISSION FOR PATENTS

P.O. BOX 1450

ALEXANDRIA, VA 22313-1450

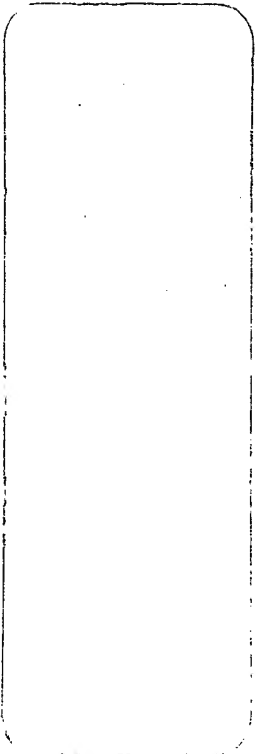
IF UNDELIVERABLE RETURN IN TEN DAYS

OFFICIAL BUSINESS

AN EQUAL OPPORTUNITY EMPLOYER



02 1A  
0004204479  
MAILED FROM



RECEIVED  
JUL 10 2006  
USPTO MAIL CENTER